

Curriculum Vitae of Dr. Lee, Heon Sang

1/00~Present

Senior Research Scientist, LG Chem. Technology Center

9/97-1/00

Postdoctoral Fellow, University of California at Berkeley

Rheological, thermal, morphological, and mechanical characterization
of polymer blends

-Linear-branched polyethylene blends

-Blends of a flexible polymer with a thermotropic liquid
crystalline polymer

3/94-2/97

Doctor of Engineering (Ph.D.), Polymer Engineering (Chem. Eng.), Korea University

Dissertation: "Physical Properties and Compatibility Studies of
Blends of Engineering Polymers Containing Thermotropic
Liquid Crystalline Polymers."

3/92-2/94

M.A.Sc., Chem. Eng., Korea University

M. A. Sc. Thesis: "Solid Mixing of Different Density Systems
in Fluidized Bed."

3/86-2/92

B.S., Chem. Eng., Korea University

HONORS AND AWARDS

1. Overseas Postdoctoral Fellowship, Korea Research Foundation, 1997.
2. Postdoctoral Fellowship, Lawrence Berkeley National Laboratory, 1998-2000.
3. Research and Development Prize from LG Chem. Ltd.
"Electrical Conductive Polymer Compounds," Feb. 2001.
4. Best Practice Prize "Feeling Functional Materials," LG Chem. Ltd., 2003.
5. Research and Development Prize from LG Chem. Ltd.
"Thermally Conductive Plastics," Feb. 2004.
6. Research and Development Prize from LG Group.
"Advanced Heat Conductive Material," Feb. 2004.
7. Korea Excellent Technology (KT mark), "Thermally Conductive Polymer-Ceramic Composites," Ministry of Commerce, Industry and Energy, Sep. 2004.
8. Changyoungshil Prize, "Thermally Conductive Plastics," Feb. 2005 Ministry of Science and Technology.

REVIEWER

- Journal of Rheology
- Polymer Engineering and Science

PUBLICATIONS (INTERNATIONAL)

1. Heon Sang Lee and Eung Soo Kim, "Linear Viscoelasticity and the Measurement of Interfacial Tension in a Partially Miscible Polymer Mixture," *Macromolecules*, Accepted (2004).

2. Y.T. Sung, W.J. Seo, Y.H. Kim, H.S. Lee, and W.N. Kim, "Evaluation of Interfacial Tension for Poly(methyl methacrylate) and Polystyrene by Rheological Measurements and Interfacial Parameter of the Two Polymers, Korea-Australia Rheology Journal, 16, 135-140 (2004).
3. Y.T. Sung, M.S. Han, J.C. Hyun, W.N. Kim, and H.S. Lee, "Rheological Properties and Interfacial Tension of Polypropylene-Poly(styrene-co-acrylonitrile) Blend containing Compatibilizer," Polymer, 44, 1681-1687 (2003).
4. Heon Sang Lee, Hyun Chul Jung, Min Su Han, Chul Su Lee, and Woo Nyon Kim, "Compatibility Study of Blends of a Thermotropic Liquid Crystalline Polymer and Flexible Chain Polymers by Application of Flory's Lattice Theory," Polymer, 42, 2177-2184 (2001)
5. Heon Sang Lee and Morton M. Denn, "The Deformation and Retraction of Thermotropic LCP Droplets in a Flexible Polymer Matrix," J. Non-Newtonian Fluid Mech., 93, 315-323 (2000)
6. Heon Sang Lee and Morton M. Denn, "Blends of Linear and Branched Polyethylene," Polym. Eng. Sci., 40, 1132-1142 (2000)
7. Heon Sang Lee and Morton M. Denn, "Rheology of a Viscoelastic Emulsions with a Liquid Crystalline Polymer Dispersed Phase," J. Rheol., 43, 1583-1598 (1999)
8. Heon Sang Lee and Morton M. Denn, "Polymer Blends with a Liquid Crystalline Polymer Dispersed Phase," Kor-Aus Rheol. J., 11, 269-273 (1999)

9. Yong Sung Chun, Heon Sang Lee, Hyun Chul Jung, and Woo Nyon Kim,
"Thermal Properties of Melt Blended Poly (ether ether ketone) and Poly(ether
imide)," J. Appl. Polym. Sci., 72, 733-738 (1999)
10. Hyun Chul Jung, Heon Sang Lee, Yong Sung Chun, Sang Bum Kim, and Woo
Nyon Kim, "Blends of a Thermotropic Liquid Crystalline Polymer and Some
Flexible Chain Polymers and the Determination of the Polymer-Polymer
Interaction Parameter of the Two Polymers," Polym. Bull., 41, 387-393 (1998)
11. Heon Sang Lee, Woo Nyon Kim, and Charles M. Burns, "Determination of the
Flory-Huggins Interaction Parameter of Polystyrene-Polybutadiene Blends by
Thermal Analysis," J. Appl. Polym. Sci., 64, 1301-1308 (1997)
12. Heon Sang Lee and Woo Nyon Kim, "Glass Transition Temperatures and Rigid
Amorphous Fraction of Poly(ether ether ketone) and Poly(ether imide)
Blends," Polymer, 38, 2657-2663 (1997)
13. Heon Sang Lee, Won Ho Jung, and Woo Nyon Kim, "Thermal Behavior and the
Determination of the Polymer-Polymer Interaction Parameter of Polycarbonate
and a Thermotropic Liquid Crystalline Polymer Blends," Polym. Bull., 37,
503-510 (1996)
14. Yong Sung Chun, Heon Sang Lee, and Woo Nyon Kim, and Taeg Su Oh, "Thermal
Properties and Morphology of Blends of Poly(ether imide) and Polycarbonate,"
Polym. Eng. Sci., 36, 2694-2702 (1996)

PATENTS

1. Heon Sang Lee, Kyung Mo Park, Jong Gu Kum, "Thermally Conductive Resin Compositions and Processing the Same," Korea Patent, 2001-34758.
2. Heon Sang Lee, Ju Hyng Lee, Jong Gu Kum, "Intelligent Heat Absorb-Release Plastic Resin Composition, Korea Patent," 2001-60784.
3. Heon Sang Lee, Ju Hyng Lee, Kyung Mo Park, Jong Gu Kum, "Water Proof Thermistor for Automobile," Korea Patent, 2002-02777.

BOOK CHAPTER

Heon Sang Lee and Woo Nyon Kim, "Polymer Blends Rheology," in Rheology and It's Applications, Seoul, Korea Society of Rheology, 6/1/2001

PUBLICATIONS (KOREAN)

1. H. C. Jung, Y. S. Chun, H. S. Lee, S. B. Kim, and W. N. Kim, Compatibility Studies of Blends of Engineering Polymers and Thermotropic Liquid Crystalline Polymers, The Korean J. Rheol., 9, 53 (1997).
2. H. S. Lee, W. H. Jung, H. W. Jung, W. N. Kim, and J. C. Hyun, Properties of Blends of Polycarbonate and a Thermotropic Liquid Crystalline Polymer, Polymer(Korea), 20, 813 (1996).
3. H. S. Lee, B. H. Kim, W. N. Kim, and J. C. Hyun, Physical Properties of Blends of Poly(ether imide) and a Thermotropic Liquid Crystalline Polymer, HwaHak KongHak, 34, 597 (1996).

4. Y. S. Chun, H. S. Lee, T. S. Oh, and W. N. Kim, Properties of Blends of Polycarbonate and Polypropylene (I): Crystallization Behavior, Polymer(Korea), 20, 1071 (1996).
5. Y. S. Chun, H. S. Lee, H. C. Jung, W. N. Kim, and J. C. Hyun, Properties of Blends of Polycarbonate and Polypropylene II. Morphology and Rheology, Polymer (Korea), 55 (1997).
6. H. S. Lee, M. S. Kim, W. N. Kim, and J. C. Hyun, Thermal Properties of Blends of Poly(ether ether ketone) and a Thermotropic Liquid Crystalline Polymer, The Korean J. Rheol., 7, 250 (1995).
7. H. S. Lee, Y. Kim, W. N. Kim, J. C. Hyun, and T. S. Oh, Properties of Blends of a Thermotropic Liquid Crystalline Polymer with Polyphenylene Sulfide, The Korean J. Rheol., 6, 96 (1994).
8. Y. S. Chun, H. S. Lee, W. H. Jung, and W. N. Kim, Thermal Properties, Morphology, and Mechanical Properties of Blends of Polypropylene and Polycarbonate, J. Eng. Sci. & Tech, Korea University, 32 (1996).
9. H. C. Jung, H. S. Lee, and W. N. Kim, Compatibility Studies of Blends of Liquid Crystalline Polymers and Engineering Polymers, J. Eng. Sci. & Tech, Korea University, 33, 81 (1996).
10. H. S. Lee and W. N. Kim, Effect of Molecular Weight on the Interaction Parameter of Polystyrene-Polybutadiene Blends, KongHakNonJip, Korea University, 35, 7 (1994).

CONFERENCES (INTERNATIONAL)

1. Heon Sang Lee, Eung Soo Kim, Jong Gu Kum, "Relaxation Time of Polymer Droplets in a Partially Miscible Polymer Matrix," 2nd Times of Polymers, Ischia, Italy, June 20-23, 2004.
2. Eung Soo Kim, Heon Sang Lee, Chong Koo Kim, Yu-Taek Sung, and Woo Nyon Kim, "Real Interfacial Tension of a Partially Miscible Polymer Blend," The XIVth International Congress on Rheology, Aug. 22-27, 2004.
3. Heon Sang Lee and Morton M. Denn, "Rheology of Viscoelastic Emulsion with a Liquid Crystalline Polymer Dispersed Phase," Society of Rheology, Madison, Wisconsin, Oct. 20, 1999.
4. Heon Sang Lee and Morton M. Denn, "Blends of Linear-Branched Polyethylenes," Society of Rheology, Monterey, California, Oct. 4, 1998.
5. Heon Sang Lee, Woo Nyon Kim, Jae Chun Hyun, and David W. Giles, "Rheology and Morphology of Blends of a Thermotropic Liquid Crystalline Polymer with Polyphenylene Sulfide," 11th Annual Meeting of the Polymer Processing Society, Seoul, Korea, Mar. 27, 1995.
6. Heon Sang Lee, Byung Hyun Kim, and Woo Nyon Kim, "Thermal Properties of Blends of a Thermotropic Liquid Crystalline Polymer with Poly(ether imide)," 36th IUPAC International Symposium on Macromolecules, Seoul, Korea, Aug. 1996.
7. Heon Sang Lee, Woo Nyon Kim, and Jae Chun Hyun, "Properties of Blends of a Thermotropic Liquid Crystalline Polymer with Polycarbonate," Korea-Australia Rheology Workshop, University of Melbourne, Australia, Nov. 24, 1996.

8. Heon Sang Lee and Woo Nyon Kim, "Properties of Blends of a Thermotropic Liquid Crystalline Polymer with Some Flexible Polymers," The First Korea-Czech Joint Symposium on Macromolecular Chemistry, Seoul, Korea, Oct. 15, 1996.

CONFERENCES (KOREAN)

1. H. S. Kwon, Y. S. Chun, H. S. Lee, and W. N. Kim, Ternary Blends of SPEEK, PEI, and PC, The Korean Institute of Chemical Engineering, Seoul, April 25, 1997.

2. H. S. Lee, H. C. Jung, W. N. Kim, and J. C. Hyun, Ternary Blends of PEI, PEEK, and a Thermotropic Liquid Crystalline Polymer, The Korean Society of Rheology, Seoul, Nov. 22, 1996.

3. H. C. Jung, H. S. Lee, and W. N. Kim, Compatibility Studies on Blends of a Thermotropic Liquid Crystalline Polymer and Engineering Polymers, The Polymer Society of Korea, TaeJun, Oct. 11, 1996.

4. H. S. Lee and W. N. Kim, Phase Behavior and Polymer-Polymer Interaction Parameter of Blends of a Thermotropic Liquid Crystalline Polymer and a Flexible Chain Polymer, The Korean Institute of Chemical Engineering, TaeKu, Oct. 18, 1996.

5. H. S. Lee, C. J. Park, Y. S. Chun, and W. N. Kim, Properties of Blends of Polypropylene and High Density Polyethylene, The Korean Society of Rheology, BuSan, May, 17, 1996.

6. Y. S. Chun, H. S. Lee, W. N. Kim, and J. C. Hyun, Morphology and Thermal and Rheological Properties of Blends of Polypropylene and Polycarbonate, The Korean Institute of Chemical Engineering, Seoul, May, 10, 1996.
7. H. S. Lee, Y. Kim, and W. N. Kim, Physical Properties of Blends of Poly(ether ether ketone) and Poly(ether imide) using DSC, The Polymer Society of Korea, Seoul, April, 19, 1996.
8. W. H. Jung, H. S. Lee, and W. N. Kim, Thermal Properties and Morphology of Blends of Polycarbonate and a Thermotropic Liquid Crystalline Polymers, The Polymer Society of Korea, TaeKu, Oct. 6, 1995.
9. M. S. Kim, H. S. Lee, and W. N. Kim, Compatibility of Blends of Poly(ether ether ketone) and a Thermotropic Liquid Crystalline Polymer, The Korean Society of Rheology, Seoul, Nov. 3, 1995.
10. Y. S. Chun, H. S. Lee, W. N. Kim, Thermal Properties and Polymer-Polymer Interaction Parameter of Blends of Poly(ether imide) and Polycarbonate, The Korean Institute of Chemical Engineering, BuSan, Oct. 21, 1995.
11. H. S. Lee, B. H. Kim, W. N. Kim, J. C. Hyun, Thermal Properties and Compatibility of Blends of Poly(ether imide) and a Thermotropic Liquid Crystalline Polymer, The Korean Institute of Chemical Engineering, BuSan, Oct. 21, 1995.
12. H. S. Lee, Y. Kim, W. N. Kim, and J. C. Hyun, Thermal Properties and Polymer-Polymer Interaction Parameter of Blends of Poly(ether ether ketone) and Poly(ether imide), The Korean Institute of Chemical Engineering, Suwon, April, 21, 1995.

13. B. H. Kim, H. S. Lee, W. N. Kim, and J. C. Hyun, Compatibility Studies of Poly(ether imide) and a Thermotropic Liquid Crystalline Polymer Blends by Thermal Analysis, The Polymer Society of Korea, Suwon, April, 14, 1995.
14. H. S. Lee, Y. Kim, W. N. Kim, J. C. Hyun, and T. S. Oh, Properties of Blends of a Thermotropic Liquid Crystalline Polymer with Polyphenylene sulfide, The Korean Society of Rheology, DaeJeon, Sep. 30, 1994.